

CLAIMS

What is claimed is:

1 1. A method comprising:
2 controlling multicast traffic in a layer 2 network, the layer 2 network
3 including a plurality of devices associated with the network, the plurality of devices
4 including a transmitter, a receiver, and a layer 2 device, the transmitter and the receiver
5 coupled to the layer 2 device, wherein controlling the multicast traffic includes
6 sending a multicast traffic control protocol query from the layer 2
7 device to the receiver on the layer 2 network;
8 receiving a multicast traffic control protocol report in response to
9 the multicast traffic control protocol query; and
10 determining whether to perform multicast traffic control protocol
11 pruning on the layer 2 network from the layer 2 device based on the report received.

1 2. The method of claim 1 wherein the layer 2 device has a plurality of ports
2 to which the multicast traffic is selectively forwarded, wherein the transmitter and the
3 receiver are joined to one or more of the ports, and wherein determining whether to
4 perform multicast traffic control protocol pruning on the layer 2 network from the layer
5 2 device based on the report received includes maintaining a multicast traffic control
6 protocol pruning table to store information regarding which ports are joined.

1

1 3. The method of claim 1 further comprising generating periodic multicast
2 traffic control protocol queries, and wherein sending a multicast traffic control protocol
3 query from the layer 2 device to the receiver on the layer 2 network further includes
4 sending at least one of the periodic queries.

1 4. The method of claim 1 further comprising ensuring that at least one
2 device on the layer 2 network is sending the multicast traffic control protocol query at
3 selected time intervals.

1 5. The method of claim 4 wherein ensuring that at least one device on the
2 layer 2 network is sending the multicast traffic control protocol query at selected time
3 intervals includes executing a multicast traffic control protocol querier algorithm.

1 6. An article of manufacture comprising a machine accessible medium
2 providing a plurality of machine readable instructions that, when executed by a
3 machine, cause the machine to perform operations comprising:

4 controlling multicast traffic in a layer 2 network, the layer 2 network
5 including a plurality of devices associated with the network, the plurality of devices
6 including a transmitter, a receiver, and a layer 2 device, the transmitter and the receiver
7 coupled to the layer 2 device, wherein controlling the multicast traffic includes

8 sending a multicast traffic control protocol query from the layer 2
9 device to the receiver on the layer 2 network;

10 receiving a multicast traffic control protocol report in response to
11 the multicast traffic control protocol query; and

12 determining whether to perform multicast traffic control protocol
13 pruning on the layer 2 network from the layer 2 device based on the report received.

1 7. The article of manufacture of claim 6 wherein the layer 2 device has a
2 plurality of ports to which the multicast traffic is selectively forwarded, wherein the
3 transmitter and the receiver are joined to one or more of the ports, and wherein
4 determining whether to perform multicast traffic control protocol pruning on the layer 2
5 network from the layer 2 device based on the report received includes maintaining a
6 multicast traffic control protocol pruning table to store information regarding which
7 ports are joined.

1 8. The article of manufacture of claim 6 further comprising generating
2 periodic multicast traffic control protocol queries, and wherein sending a multicast
3 traffic control protocol query from the layer 2 device to the receiver on the layer 2
4 network further includes sending at least one of the periodic queries.

1 9. The article of manufacture of claim 6 further comprising ensuring that at
2 least one device on the layer 2 network is sending the multicast traffic control protocol
3 query at selected time intervals.

1 10. The article of manufacture of claim 9 wherein ensuring that at least one
2 device on the layer 2 network is sending the multicast traffic control protocol query at
3 selected time intervals includes executing a multicast traffic control protocol querier
4 algorithm.

1

1 11. A method comprising:
2 controlling multicast traffic in a layer 2 network, the layer 2 network
3 including a plurality of devices associated with the network, the plurality of devices
4 including a transmitter, a receiver, and a layer 2 device, the transmitter and the receiver
5 coupled to one or more of the ports, wherein controlling the multicast traffic includes
6 sending an Internet Group Management Protocol (IGMP) query
7 from the layer 2 device to the receiver on the layer 2 network;
8 receiving an IGMP report in response to the IGMP query; and
9 determining whether to perform IGMP pruning on the layer 2
10 network from the layer 2 device based on the report received.

1 12. The method of claim 11 wherein the layer 2 device has a plurality of
2 ports to which the multicast traffic is selectively forwarded, wherein the transmitter and
3 the receiver are joined to one or more of the ports, and wherein determining whether to
4 perform IGMP pruning on the layer 2 network from the layer 2 device based on the
5 report received includes maintaining an IGMP pruning table to store information
6 regarding which ports are joined.

1 13. The method of claim 11 further comprising generating periodic IGMP
2 queries, and wherein sending an Internet Group Management Protocol (IGMP) query
3 from the layer 2 device to the receiver on the layer 2 network further includes sending at
4 least one of the periodic queries.

1 21. The apparatus of claim 16 wherein the multicast traffic control protocol
2 is an Internet Group Management Protocol (IGMP).

1 22. The apparatus of claim 21 wherein the layer 2 device includes a plurality
2 of ports.

1 23. The apparatus of claim 21 wherein the layer 2 device includes a switch.

1 24. The apparatus of claim 21 wherein the layer 2 network comprises a
2 Virtual Local Area Network (VLAN).

1 25. The apparatus of claim 21 wherein the layer 2 device includes a plurality
2 of ports and an IGMP pruning table to determine which ports are joined.

1 26. An apparatus comprising:
2 a layer 2 device;
3 means for sending multicast traffic control protocol queries to a layer 2
4 network which includes the layer 2 device, the means for sending multicast traffic
5 control protocol queries being executable from the layer 2 device; and

6 means for controlling multicast traffic in the layer 2 network, the
7 means for controlling multicast traffic being executable from the layer 2 device.

1 27. The apparatus of claim 26 wherein the layer 2 device includes a plurality
2 of ports.

1 28. The apparatus of claim 26 wherein the layer 2 device includes a switch.

1 29. The apparatus of claim 26 wherein the layer 2 network comprises a
2 Virtual Local Area Network (VLAN).

1 30. The apparatus of claim 26 wherein the layer 2 device includes a plurality
2 of ports and means for determining which ports are joined.